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Dauphina melanops, Jac.

Dauphina melanops, Jac. Voeltzk. Reise in Ostaf. Jahren 1903-1905, iii. p. 543 (1917).

Literna lambertoni, Lallem. Ann. Soc. ent. France, lxxxviii. p. 284 (1919).

XXIV.—*On the Nematocerous Diptera of Jan Mayen Island.*
By F. W. EDWARDS.

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So far as I am aware, the only Nematocerous Diptera known hitherto from Jan Mayen are those recorded by Becher in 1886 ('Österreichische Polarstation Jan Mayen: Insekten'); these include only three species known from elsewhere and five supposed by Becher to be peculiar to the island. In the summer of 1921 a number of insects, including ten species of Nematocera, were collected on the island by Mr. W. S. Bristowe, who has briefly recorded his results in the 'Transactions of the Cambridge Philosophical Society' (vol. xxi. pp. 38-43, 1922).

I am very much indebted to Mr. Bristowe for kindly allowing me to examine his interesting material, and for supplying me with notes relating to its capture; also to Dr. H. Zerny, of the Vienna Museum, for the loan of the types of *Sciara globiceps*, *Chironomus incertus*, and *Ch. callosus* from Becher's collection. Of the eight species recorded by Becher only four are represented in Mr. Bristowe's collection. The total number of Nematocera now known from Jan Mayen is therefore fourteen, the list being as follows:—

Sciara tridentata, Rübs. G., S.

— *bicolor*, Mg. E.

— *globiceps*, Becher.

Exechia frigida (Holmgren) (*Parexechia concolor*, Becher). B., S.,
? G., A.

Scatopse pulicaria, Lw. E., A.

Diamesa aberrata, Lundbeck. A., G.

- Cricotopus basalis* (Staeger). I., B., S., G.
Orthocladus ? *conformis* (Holmgren). S.
 — ? *pleuralis*, Malloch. A.
Camptocladus incertus (Becher). S.
 — *lasiophthalmus*, Malloch. A.
Metriocnemus callosus (Becher). ? B.
Trichocera maculipennis, Mg. E., I., G., A.
 — *lutea*, Becher. B.

Most of the species in this list are known to occur elsewhere, and these are marked as follows:—E., Europe; A., North America; G., Greenland; I., Iceland; B., Bear Island; S., Spitsbergen. The two *Orthocladus* in this list may be male and female of the same species, and the two *Camptocladus* are doubtfully distinct.

Mr. Bristowe writes:—"By the time we left Jan Mayen—the beginning of September—summer was drawing to a close. Judging by the advanced stages of several Nematoceran larvæ found just before our departure, besides pupæ, it seems probable that they pass the winter in the pupal stage, though it is also likely that they can do so in the larval stage. Mr. Porsild, who is stationed at Disco, tells me he has artificially frozen Lepidopteron larvæ and pupæ until they have become as brittle as twigs. Yet on being thawed the great majority have recovered.

"There are no biting forms of Nematocera on Jan Mayen—at least, we did not notice any biters."

1. *Sciara tridentata*, Rübs.

Several specimens, including both sexes, were collected by Mr. Bristowe. An easily recognized species, on account of the well-marked hypopygial characters and the short stout antennæ.

2. *Sciara bicolor*, Mg.

Recorded by Becher; not examined by me.

3. *Sciara globiceps*, Becher.

The original series under this name comprised one male and four females. The male should be taken as the type. It shows the following characters:— R_1 a little shorter than R and ending well before the level of mf ; halteres and palpi both pale (possibly faded); no macrotrichia on M and Cu ; antennal segments about twice as long as broad; clasper a little over twice as long as broad, with a single rather

long apical spine, directed inwards; there is apparently no group of fine bristles at the base of the hypopygium beneath. Three of the females agree in most respects with the male, but R_1 is practically as long as R and reaches almost to the level of mf ; in the fourth R_1 is much shorter, and this specimen probably represents a distinct species. Some females, probably of this species, were obtained by Mr. Bristowe.

4. *Evechia frigida* (Holmgren) (*Parevechia concolor*, Becher).

Numerous specimens of this species were collected by Mr. Bristowe, both sexes being represented. The colour of the coxæ varies; most specimens have them dark, whereas Becher says "gelb," but the specimens agree structurally with the description, and there is no doubt about the identification. The species is apparently identical with the North-American *E. costa*, Johannsen. There is no reason whatever for maintaining the genus *Parevechia*.

"Common on the mossy patches." (*Bristowe*.)

5. *Scatopse pulicaria*, Lw.

Recorded by Becher; not found by Mr. Bristowe nor examined by me.

6. *Diamesa* ? *aberrata*, Lundbeck.

One damaged male of a *Diamesa* was present among Becher's material, though not described by him; one newly-hatched female and one pupa evidently of the same species were collected by Mr. Bristowe, the former in a mossy marsh, the latter in a little pool at the base of the Säule Rock. These specimens show all the characters mentioned by Lundbeck in his description of *D. aberrata*, and it will probably be safe to assume they are that species. The species apparently belongs to Kieffer's genus *Syndiamesa*, the eyes being quite bare and the fourth tarsal segment almost cylindrical, only slightly emarginate at the tip, and not much shorter than the fifth. In the male the last antennal segment is more than twice as long as the remaining flagellar segments together; the hypopygium is almost as figured by Malloch for *D. waltli*, the spine of the anal segment being very short, but the clasper is of rather a different shape, being straight and rather narrow, blunt-ended. In the female the scutellum and legs are pale yellowish probably owing to immaturity. The pupa is

extremely similar to those described by Potthast and Thiene-mann, but differs in regard to the bristles on the lateral abdominal flanges. These are dark in colour, less than half as long as the segments, and almost equidistant.

7. *Metriocnemus callosus* (Becher).

Becher's types comprised 2 ♂, 2 ♀ (not 1 ♂, 3 ♀, as he stated). All the specimens are apparently newly emerged, besides having faded in alcohol; hence Becher's description is valueless as regards coloration. The true mature colour is shown by some specimens collected by Mr. Bristowe; in these the body, antennæ, and legs are uniformly dull black, also the halteres of the male, the female halteres being yellowish. In both sexes (not only in the female, as indicated by Becher) the wings are distinctly milky white. A careful examination of all the specimens shows that there are a few hairs present at the extreme tip of the wing, about 10-15 in the male and 20-30 in the female. On this account, and also because of the conspicuously hairy legs, the species seems better placed in *Metriocnemus* than in *Orthocladus*. The male antennæ are missing in Becher's specimens, but in Bristowe's the last segment is a little more than twice as long as the rest of the flagellum. According to the description, Kieffer's *Dactylocladius subpilosus* from Bear Island and *Metriocnemus similis* from Novaia Zemlya must be extremely similar to *M. callosus*, and may possibly prove identical.

8. *Orthocladus ? conformis* (Holmgren).

A single male was collected by Mr. Bristowe which may provisionally be regarded as a variety of *O. conformis*. In regard to the structure of its antennæ, hypopygium, claws, and empodium, it agrees rather closely with the specimen recently mentioned by me from Bear Island, but the halteres are yellow instead of black.

9. *Orthocladus* sp.

Two ♀, near or identical with *Dactylocladius pleuralis*, Mall., described from North America, and perhaps also identical with a common European species for which some earlier name no doubt exists. This may possibly be the female of *O. conformis*, mentioned above, but, in addition to the striking difference in the colour of the thorax (all black in *O. conformis*, yellow with three well-separated brown

mesonotal stripes in *O. pleuralis*), the empodia of these females seem rather longer.

10. *Cricotopus basalis* (Staeg.).

A series was collected by Mr. Bristowe, including several of both sexes. This forms an interesting extension of the known range of this widely-spread circumpolar species.

"Plentiful round the North Lagoon (a deep freshwater lagoon)." (*Bristowe.*)

11. *Camptocladius incertus* (Becher).

The seven females of this species in Becher's collection are all more or less damaged and very much faded through long immersion in alcohol, but are still recognizable. They appear to be identical with Kieffer's *Trichocladius* (*Phænocladius*) *curvinervis*. Becher's figure of the wing hardly suggests a *Camptocladius*, but it is inaccurate, the bend in *Cu*₂ being really quite pronounced in all the specimens. The halteres are yellowish, as described by Kieffer; in recording the species recently from Spitsbergen, I omitted to notice that the halteres in those specimens were dark, though, since they agreed in other respects, the identification may be correct. *Camptocladius incertus*, Lundström, recently described from Arctic Siberia, is possibly the same species.

12. *Camptocladius* ? *lasiophthalmus*, Mall.

Several specimens (including both sexes) collected by Mr. Bristowe resemble *C. incertus* in most respects, and are, perhaps, referable to that species, but the fork of *Cu* is shorter, its base being quite twice the length of the cross-vein distant from the base of the cross-vein. These specimens agree in all respects with Malloch's description of *C. lasiophthalmus*, and differ chiefly from the common European *C. aterrimus*, Mg., in having paler halteres. The males agree with *C. nudipennis*, Goet., as regards antennæ and hypopygium, but have the eyes distinctly though very shortly pubescent.

"*Camptocladius lasiophthalmus* was very common on flowers, especially the dandelion, *Taraxacum officinalis* (Web), and *Saxifraga caespitosa* (L.) up to 2000 ft. The latter seemed to be very sticky inside, and dead specimens were frequent, having apparently been caught by the gummy nature of the flower. Whether the Saxifrage benefited in any way by their dead bodies, I do not know. Two

ichneumons—*Stenomacrus intermedius*, Hlgr., and *S. cubiceps*, Thor. (according to Mr. Morley probably parasitic on the Mycetophilidæ)—were also very numerous in these two flowers. Eighteen of the latter species were shaken from two heads of one dandelion-plant. Any cross-pollination which takes place on Jan. Mayen must be chiefly due to *C. lasiophthalmus* and the two ichneumons." (*Bristowe.*)

13. *Trichocera maculipennis*, Mg.

Recorded by Becher, not found by Mr. Bristowe.

14. *Trichocera lutea*, Becher.

Several females were obtained by Mr. Bristowe. They are dark in colour and do not show the yellow ground-colour described by Becher, whose specimens were doubtless either immature or discoloured by alcohol. The species is of interest on account of a peculiarity of venation, *r-m* being placed slightly *before* the fork of *Rs*.

"Found round a little pool at the base of the Säule rock. One had got drowned, and, though in the middle of the pool, was being scavenged by *Bdella littoralis*, Linn., a red mite very common on the island." (*Bristowe.*)

XXV.—*The Animal Ecology of King's College Chapel, Cambridge.—A Preliminary Note.* By A. D. HOBSON, B.A., Christ's College, and L. H. MATTHEWS, B.A., King's College*.

THIS paper is a consideration of the relationships of the animals living in the situation in question. The object is not primarily entomological, although many of the animals are insects.

The place under consideration is peculiar, and must first be described. The chapel has a double roof, the inner being the stone vaulting, while the outer is composed of wooden beams supporting the lead outer roof. There is a space between the two roofs extending over the whole of the chapel, and varying from 7 feet to 10 feet in height. This space, which is about 80 feet above the ground, communicates with the exterior by a window at each end. A gallery runs

* From the Zoological Laboratory, Cambridge.